USSR
FILIN, Yu. A., ISAYEV, A. S., Liteynoye Proizvodstvo Novykh Sudostroyitel'nykh Splavov, Sudostroyeniye Press, Leningrad, 1971.

4/6

USSR

FILIN, Yu. A., ISAYEV, A. S., Liteynoye Proizvodstvo Novykh Sudostroyitel'nykh Splavov, Sudostroyeniye Press, Leningrad, 1971.

USSR

FILIN, Yu. A., and ISAYEV, A. S., Liteynoye Proizvodstvo Novykh Sudostroyitel'nykh Splavov, Sudostroyeniye Press, Leningrad, 1971

6/6

USSR

UDC 681.325.3

ISAYEV, D. G.

"Investigation of the Effect of a Transistorized Switch on the Mode of Operation of a Natural Oscillatory Angle-to-Code Converter"

Za tekhn. progress (Toward Technical Progress), 1972, No 5, pp 6-8 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 72, abstract No 11B316)

Translation: An investigation is made of the way that the transistorized switch through which the sensing element of the corresponding digital position of an angle-to-code converter is connected influences the parameters of the tank circuit of the self-excited oscillator, and ways to reduce this influence are considered. An analytical expression is found for the Q of the circuit as a function of the base current of the transistorized switch, and currents are experimentally determined which minimize the effect of collector resistor instability on the tank parameters. The paper also gives the results of research to determine the size of the end gap between the sensing element and the electrically conductive body which minimizes the influence of the transistorized switch on the converter operating conditions. Four illustrations, three tables, bibliography of three titles. Résumé.
1/1

USSR

UDC 615.787:612.014.46

SHIKHIYEV, I. A., AKHUNDOV, E. A., MOVSUMZADE, E. M., ISAYEV, E. M., and KLUGYL', T. A.

"The Synthesis and Psychotropic Properties of Some Acetylene Derivatives of Phthalimide"

Baku, Azerbaydzhanskiy Meditsinskiy Zhurnal, Vol 50, No 3, Mar 73, pp 14-18

Abstract: In earlier work by the authors of this article, the synthesis of 3-phthalimido-1-propyne and of some of its amino derivatives was investigated. In the present work the neuropharmacological characteristics of the compounds of this type that had been synthesized were subjected to study in experiments on white mice. The preliminary pharmacological study indicated that some of the compounds of this class resembled with respect to their activity tranquilizers of the unsaturated carbinol type such as ethchlorovinol, oblivon, and oblivon K.

1/1

USSR Marine and Shipbuilding

BOOKS 532.528

YEGOROV, I. T., SAVOVNIKOV, Yu. N., ISAYEV, I. I., PASIN, M. A. ISKUSSTVENNAYA KAVITATSIYA (Artificial Cavitation), Leningrad "Sudostroyeniye" 1971, 283 pp, illus, formulae, biblios, 1,850 copies printed

Results are given of research in supercavitation, natural and artificial ventilation of various lifting surfaces. The book does not pretend to be a full survey of research in this area of hydromechanics, but contains primarily the data obtained in recent years by the authors. It is intended for use by scientific associates and technicians working in the design offices and scientific research organizations in the ship-building industry, but can also be useful to students in the higher technical schools majoring in hydromechanics and marine engineering.

Contents

1/2

USSR

YEGOROV, I.T., et al, ISKUSSTVENNAYA KAVITATSIYA (Artificial Cavitation), Leningrad 1971.

2/2

1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--USE OF MASS SPECTROMETRY FOR DETERMINING THE POSITION OF THE LABEL IN CARBON 13 LABELED NAPYTHALENES -U-

AUTHOR-(03)-KOPTYUG, V.A., ISAYEV, I.S., GORFINKEL, M.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (4), 845-9

DATE PUBLISHED-------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, CHEMISTRY

TOPIC TAGS--MASS SPECTRUM, CARBON ISOTOPE, CHEMICAL LABELLING, NAPHTHALENE, GRIGNARD REACTION, KETONE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1015

STEP NO--UR/0062/70/000/004/0845/0849

CIRC ACCESSION NO--AP0134727

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0134727

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GRIGNARD SYNTHESIS STARTING WITH CARBOXYLATION OF PHCH SUB2 CH SUB2 CH SUB2 MGBR WITH PRIME13 CO SUB2, FOLLOWED BY DEHYDRATION OF THE ACID WITH POLYPHOSPHORIC ACID AND HEATING THE TETRAHYDRONAPHTHALONE WITH NAOH,KOH AT 220DEGREES GAVE ANPHTHALENE 1 PRIME13 C IN 54PERCENT RADIOCHEM. YIELD. FROM PHCH SUB2 CH SUB2 MGBR AND PRIME13 CO SUB2 WAS PREPD. THE TAGGED PENYYLPROPANOL BY REDN. WITH LIALH SUB4 OF THE INTERMEDIATE ESTER; THE ALC. CONVERTED TO RBR AND THIS CONVERTED TO RMGBR, THEN CARBOXYLATED WITH ORDINARY CO SUB2 GAVE AS ABOVE 50.6PERCENT NAPHTHALENE,2 PRIME13 C. THESE WERE OXIDIZED CONVENTIONALLY TO 1,4,NAPHTHOQUINONE, PRIME13 C WHICH ON ELECTRON IMPACT DISSOCD. INTO PARTICLES WHOSE SPECTRUM WAS RECORDED IN A MASS SPECTROMETER. TYPICAL DISTRIBUTION PATTERNS WERE OBTAINED AND THESE, WITH SUITABLE EMPIRICAL EQUATIONS, WERE FOUND TO BE USEFUL FOR DETN. OF THE SITE OF THE PRIME13 C TAG IN NAPHTHALENE. FACILITY: NOVOSIBRISK. INST. ORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

USSR

UDC: 621.327.4.032.212

IGNAT'YEV, V. G., ISAYEV, L. A., SYSUN, V. V.

"A Gas-Discharge Light Scurce With End-Face Emission Output"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 10, Apr 72, Author's Certificate No 332523, Division H, filed 4 Aug 70, published 14 Mar 72, p 212

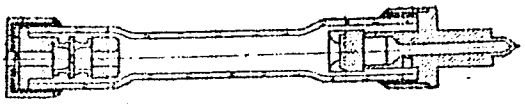
Translation: This Author's Certificate introduces: 1. A gas-discharge light source with end-face emission output. The lamp contains a tubular envelope filled with working gas, and electrode assemblies mounted on its opposing ends. One of the electrode assemblies is made in the form of a hollow cylindrical part with an optically transparent window in one end face for emission output. As a distinguishing feature of the patent, in order to bring the output emission as close as possible to that of an absolutely black body, to increase the efficiency of conversion of electrical energy to directional emission, to reduce the overall dimensions, and to form a platform with constant energy brightness, the opposite electrode is made in the form of a flat mirror surrounded at the periphery by a projecting ring which acts as the working surface of the electrode. 2. A

1/2

USSR

IGNAT'YEV, V. G. et al., USSR Author's Certificate No 332523

modification of this light source distinguished by the fact that the hollow electrode assembly is made up of two parts, the working part being separated by a slit diaphragm from the carrier part and the window for emission output.



UDC 621.771.35.001.5

USSR

RYMOV, V. A., POLUKHIN, P. I., ISAYEV, L. M., VATKIN, Yu. Ya., and NEMTSOV, A. S.

"Determining the Basic Parameters of the Process of Continuous, Roll-Less Shaping of Skelp"

Plasticheskaya Deformatsiya Metallov i Splavov, Moscow, No 64, "Metallurgiya," 1970, pp 152-158

Translation: Proceeding from the condition of continuity of the deformation area, the basic parameters of the process of roll-less shaping of skelp are found: the work of shaping; the length of the deflecting area; the traction force of the circular-pass stands; and their drive power. Two figures and three bibliographic entries.

1/1

L. N. ISAYEV

Acc. Nr: AP0050042 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: 4R0368

94391q Interaction of a high-frequency discharge plasma with the surface of some dielectrics. Akishin, A. I.; Blyudov, E. V.; Guzhova, S. K.; Isaev, L. N.; Solov'ev, G. G.; Titov, V. I. (USSR). *Zh. Prikl. Spektrosk.* 1970, 12(1), 13–16 (Russ). An expt. was performed, imitating the effect of the ionic component of the upper atm. on some dielec. materials (satellite surfaces) present in a plasma of a high-frequency discharge. Optical properties, such as reflection and transmittance coeffs., of a series of dielec. materials were detd. in ionic plasmas of 5–40 eV energy. The reflection coeffs. of dielecs. in the visible range decreased markedly due to interaction with O^+, N^+, H^-, or He^+. The effect of O^+ was the greatest. HMJR

I B

1/1

4

REEL/FRAME
19801981

USSR

UDC 621.396.963.3

ISAYEV, L. P., PEREVEZENTSEV, L. T., PILIPCHIK, V. G.

"Methods of Obtaining a Discrete Color Television Image By the Output Signals of a Controlling Electronic Digital Computer"

Sb. nauch. tr., Kiyev. in-t inzh. grazhd. aviatsii (Collection of Scientific Works, Kiev Institute of Civil Aviation Engineers), 1970, Issue 5, pp 62-64 (from RZh--Radiotekhnika, No 9, Sep 1971, Abstract No 9G41)

Translation: Possible methods are analyzed for obtaining a color television image in the form of a combination of different markers using the output signals of a digital computer in aviation simulators of visual situations. A color mask kinescope is employed having three luminophors, each excited by a separate beam, and a digital computer (grafekop) is sued as the output device. A number of recommendations are presented on the choice of a method of conversion of the digital computer signals into television signals. 2 ill. N. S.

1/1

USSR

UDC 621.396.963.3

PEREVEZENTSEV, L.T., ISAYEV, L.P.

"Color Indication Of Radar Signals"

Sb. nauch. tr. Kiyev. in-t inzh.grazhd. aviatsii (Collection Of Scientific Works. Kiev Institute Of Civil Aviation Engineers), 1970, Issue 5, pp 3-10 (from RZh--Radiotekhnika, No 9, Sept 1971, Abstract No 9G39)

Translation: The possibility is evaluated of using color indicators in radar systems for control of air traffic in the case of civil aviation. The materials are presented of experiments on recognition of various gradations of light as applied to the working conditions of dispatchers. The possibility is considered of presenting additional information on screens of light indicators of the television type. Requirements are formulated on color indication which, however, bear a provisional nature because it is impossible to consider the data provided as sufficient. 2 ill. 15 ref. N.S.

1/1

UDC 621.396.963:621.397

USSR

PILIPCHIK, PEREVSZENTSEV, L.T., ISAYEV, L.P.

"Transmission Of Supplementary Information During Conversion Of Radar Signals Into Television"

Sb. nauch. tr. Kiyev. in-t inzh. grazhd. aviatsii (Collection Of Scientific Works, Kiev Institute Of Civil Aviation Engineers), 1970, Issue 5, pp 55-61 (from RZh--Radiotekhnika, No 9, Sept 1971, Abstract No 9G46)

Translation: Possible methods are considered for simultaneous conversion of the three radar signals which characteristize the three parameters of the target (coordinates and supplementary criterion) into television signals for representation of the aerial situation in dispatcher systems. Of the four systems analyzed--amplitude, code, frequency, and pulse duration modulation -- the code method has the greatest advantages, making it possible to increase the volume of supplementary information being represented without significantly decreasing the resolving power of the system as a whole. The precision of transmission of the supplementary information by the code method does not depend on nonlinearity of the scanning. In addition the conversion apparatus is simplified. 6 ill. N.S.

1/1

UDC 621.791.753.9

USSR

LANGER, N. A., Candidate of Technical Sciences, ONOPRIYENKO, L. M., Engineer, BLASHCHUK, V. YE., Engineer, GORBAN', V. A., Engineer, Electric Welding Institute imeni Ye. O. Paton of the Academy of Sciences UkrSSR, ISAYEV, N. N., Engineer, All-Union Scientific Research Institute of the Hydrolysis Industry, Leningrad, and SHELENKOV, G. M., Sumsk Machinery Manufacture Plant imeni M. V. Frunze

"Corrosion Resistance of Welded Joints of AT3 Alloy in Sulfuric Acid"

Kiev, Avtomaticheskaya Svarka, No 1(250), Jan 74, pp 67-68

Abstract: An experimental study was made of the corrosion resistance and the change of mechanical properties of AT3 titanium alloy and its compounds in 0.6-1.2% concentrated sulfuric acid at 180 and 200° C. The results of electrochemical investigation in 0.9% H_2SO_4 at 90° C show that automatically welded specimens behave analogously to the base metal and active zone. Manually welded specimens have an active zone of anodic dissolution; in their passive zone the current density is $2 \cdot 10^{-2}$ mA/cm^2, which is less than in the base metal ($4 \cdot 10^{-2}$ mA/cm^2). Tests conducted with sample specimens revealed that the base metal corrodes after 44 weldings at a rate of 0.014 mm/year, automatically

1/2

USSR

LANGER, N. A., et al., Avtomaticheskaya Svarka, No 1(250), Jan 74, pp 67-68

Welded joint corrodes at a rate of 0.016 mm/year, and a manually welded joint corrodes at a rate of 0.013 mm/year. Two figures, one table, two bibliographic references.

2/2

UDC 629.7.036.3:536.46

USSR

ISAYEV, N. A., MAKSIMOV, YU. YA., ABRUKOV, S. A.

"Effect of a Constant Electric Field on a Flame Under Various Combustion Regimes"

V sb. Fiz. vibrats. goreniya i metody yeye issled. (Physics of Vibration Combustion and Methods for Studying It -- Collection of Works), No. 1, Cheboksary, 1971, pp 74-78 (from RZh-Aviatsionnyye i raketnyye dvigateli, No 5, May 72, Abstract No 5.34.27)

Translation: The effect of a strong electrostatic field with a strength up to 4 kv/cm on diffusion and kinetic propane flames under the same fuel flow is discussed. 5 ill., 3 ref. Resume.

1/1

USSR

UDC 543.13.541.183

MELESHKO, V. P., ZOLOTAREVA, R. I., PESTUSHKO, N. N., and ISAYEV, N. I.
Voronezh Technological Institute

"The Question of the Sources of Regenerating Ions During Electrochemical Regeneration of Ion Exchange Resins"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 5, May 72, pp 1188-1190

Abstract: It has been shown that the ion exchange resins may be regenerated with hydrogen or hydroxyl ions forming on the interphases: ion exchange membrane -- solution, or ion exchange resin -- solution in the process of their polarization with current densities exceeding the treshold level. Maximal effect is achieved when the regeneration is a result of a combined action of two sources of regenerating ions: the electrode reaction and the process on the bipolar border or on the border between the membrane and solution. The degree of the regeneration of ion exchange resin alters down the electric field line of forces, increasing from the anode to cathode for the anion exchange resin and decreasing for the cation exchange resin regardless of the source of regenerating ions.

1/1

UDC 541.135

USSR

ISAYEV, N. I., DROBYSHEVA, I. V., Voronezh. Technological Institute

"The Transition Time for Ion-exchange Membranes in Electrodialysis with Ion-exchange Fillers"

Moscow, Elektrokhimiya, Vol VII, No 10, pp 1545-1548

Abstract: Results are presented from determining the magnitude of the transition time for ion-exchange membranes in the presence of ion-exchangers in the desalination chamber of an electrodialyzer, and the applicability of the Sand equation [H. J. S. Sand, Z. Phys. Chem, No 35, 641, 1900]:

$$\tau^{1/2}=\frac{zFc_0}{2i(1-t)}(\pi D)^{1/2}$$

to the given systems is demonstrated. Graphs are presented for the variation of the voltage drop on the MK-40 membrane and in the layers of electrolyte adjacent to it with time in a 0.01 N solution of calcium chloride in the presence of KU-2 cation-exchange resin, AV-17 anion-exchange resin,

1/3

mixtures of these two resins, and without a filler. Values of $i\tau^{1/2}$ are presented in a table for the MK-40 membrane in the presence of various ion-exchange resins. Graphs are plotted for $\tau^{-1/2}$ as a function of the polarizing current density in the system made up of the cation-exchange membrane and the cation-exchange resin for various concentrations of the calcium chloride solution, $i\tau^{1/2}$ as a function of the concentration of the calcium chloride solution for the MK-40 membrane in the presence of the mentioned ion-exchange resins. These functions form straight lines the slope of which depends on the type of ion-exchange resin in contact with the membrane. The data obtained indicate the effect of the ion-exchange fillers on the magnitude of the transition time arises from the change in the working surface of the membrane. In the case of contact between a membrane and an ion-exchange resin with opposite signs of the fixed ion charge, there is partial shielding of the membrane surface. The true current density on the membrane becomes higher than that determined by the apparent surface. For this reason, the transition time is reduced. At the interface between the membrane

USSR

ISAYEV, N. I., et al, Elektrokhimiya, Vol VII, No 10, pp 1545-1548

and the ion-exchange resin with opposite signs of the fixed ion charge, on the other hand, flowing of the current leads to a decrease in the concentration of the solution which promotes a reduction in the transition time. In the case of contact between a membrane and an ion-exchanger with the same signs of the fixed ion charge, the membrane surface increases, and the transition time increases correspondingly.

3/3

USSR

UDC 541.183.24

MELESHKO, V. P., SHAPOSHNIK, V. A., ISAYEV, N. I., and PESHKOVA, N. N.
Voronezh Technological Institute

"Kinetics of Electrochemical Regeneration of Ion Exchange Resins"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, No 1, Jan 71, p 196

Abstract: Electrochemical regeneration of ion exchange resins is based on removal of the absorbed ions by the action of electric potential gradient applied to it, and replacement of these ions by hydrogen or hydroxyl ions formed by electrode reactions. With high values of the applied potential gradient, the kinetics of the process is determined by the rate of removal of adsorbed ions from the resin. A simplified formula is proposed for calculation of the degree of regeneration:

$$a = 1-e^{-k\tau}.$$

1/1

USSR

UDC 541.135.2 + 621.359.7

MELESHKO, V. P., ISAYEV, N. I., PESTUSHKO, N. P., DEREVYANKO, L. A., TSYGUROVA, L. I., and BORISOVSKIY, I. V., Voronezh Technological Institute

"Electrochemical Regeneration of the Mixed Salt Forms of Anion Exchanger AV-17"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, No 2, Feb 71, p 482

Abstract: Completeness of regeneration of mixed chloride and sulfate forms of the anion exchanger AV-17 was studied as a function of current density, time and the ratio of above ionic forms. It was shown that the chloride-form regenerates better than the sulfate form. When the current density applied was 15 ma/cm^2, after 5 hrs of regeneration and Cl:SO_4 ratio 1:1, 32.5% of the Cl-form regenerated, and 30% of the SO_4-form; with a 3:1 ratio of Cl:SO_4 the values were 34% and 31% respectively.

1/1

UDC 621.039.51

USSR

ISAYEV, N. V., and PETROV, V. N.

"Effectiveness of Eccentrically-Placed Absorbers in a Uranium-Water Critical Assembly"

Fiz. Yadern. Reaktorov [Nuclear Reactor Physics -- Collection of Works], No 2, Moscow, Atomizdat Press, 1970, pp 183-186 (Translated from Referativnyy Zhurnal--Yadernyye Reaktory, No 3, 1971, Abstract No 3.50.62)

Translation: Certain results are described from a calculation and experimental study of the effectiveness of eccentrically placed absorbers in a uranium-water critical assembly. The effectiveness of the absorbers was determined experimentally by measuring the critical heights of the uranium-water assembly without the absorbers H_1 and with the absorbers H_2 with subsequent integration of the dependence $\delta\rho/\delta H = f(H)$ within limits of H_1 to H_2. The M_1 critical assembly used in the experiments, part of the "Lada" test stand, is a heterogeneous uranium-water system with type EK-10 fuel elements, placed in a square lattice with a spacing of 17 mm. The design of the control organs of the assembly allows the creation of "pure" active core zones, i.e., zones without absorbers. The experimental dependence $\delta\rho/\delta H = f(H)$ was produced by the method of supercritical tuning of the reactor. The reactivity was determined in

USSR

ISAYEV, N. V., and PETROV, V. N., Fiz. Yadern. Reaktorov, No 2, Moscow, Atomizdat Press, 1971, pp 183-186

shares of β_{eff} by the excursion time using the U^{235} inhour formula. The excursion time T was between 50 and 1,000 sec, allowing the contribution of prompt neutrons to reactivity to be ignored. When the load on the core was changed, dependences $\delta\rho/\delta H = f(H)$ and $\rho=\rho(H)$ were produced for the "pure" assembly. The dependence $\rho = \rho(H)$ was used to process the experimental data on the effectiveness of the absorbers. 7 biblio. refs.

2/2

UDC 621.039

USSR

ISAYEV, N. V., and PETROV, V. N.

"Effectiveness of Eccentrically Placed Absorbers in a Uranium-Water Critical Assembly"

V sb. Fiz. yadern. reaktorov (Physics of Nuclear Reactors -- Collection of Works), No 2, Moscow, Atomizdat, 1970, pp 183-186 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V591)

Translation: Results of experiments and calculations are presented on the effectiveness of regulators in a uranium-water critical assembly with EK-1 fuel elements placed in a square lattice with a step of 17 mm. Experimental values were obtained by measuring the critical heights of the system with absorbers and without them. The effectiveness was determined as a function of the radius of the placement in the critical assembly of the control rods of B_4C (density 1.22 g/cm^3) in Al-tubes of diameter 10/9, 15/13, or 18/15 mm. The measurements are in good agreement with a perturbation theory calculation taking into account the depression of thermal neutron flux in the absorber. V. A. Pavshuk.

1/1

1/2 030 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--MASS SPECTROMETRY OF GASEOUS PRODUCTS OF AMMONIUM PERCHLORATE THERMOLYSIS -U-

AUTHOR-(03)-ISAYEV, R.N., ZAKHAROV, YU.A., BORDACHEV, V.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 302-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MASS SPECTROSCOPY, MASS SPECTROMETER, AMMONIUM PERCHLORATE, ISOTHERMAL TRANSFORMATION, CHEMICAL DECOMPOSITION, THERMAL EFFECT, CHEMICAL KINETICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0554 STEP NO--UR/0076/70/044/002/0302/0305

CIRC ACCESSION NO--AP0113445
UNCLASSIFIED

USSR UDC: 535.2

BOLOTOVSKIY, B. M. and ISAYEV, R. S.

"Energy Losses of a Charged Particle Moving in a Medium With Slight Dispersion"

Leningrad, Optika i Spektroskopiya, No 4, October 1973, pp 776-778

Abstract: In this brief communication, slight dispersion of the medium is defined as a situation in which the square of the extinction coefficient is negligible compared to the first power of the coefficient. Under this assumption, the authors consider a point charge moving uniformly through such a medium. The analysis begins with a formula for the losses in the particle's energy per unit length of its path and theoretically obtains expressions for these losses that are valid for any type of dispersion regardless of its nature. This article is essentially an extension of the Landau and Lifshits book Elektrodinamika sploshnykh sred (Electrodynamics of Solid Media) published in Moscow by Fizmatgiz, 1953. The authors thank V. L. Ginzburg and V. V. Tamoykin for their advice and comments.

1/1

Acc. Nr. AP0041854 Abstracting Service: CHEMICAL ABST. 74170 Ref. Code GR0366

89874v Adamantane and its derivatives. XXI. α-Halo-substituted ketones and aldehydes of the adamantane series. Stepanov, F. N.; Isaev, S. D.; Vasil'eva, Z. P. (Kiev. Politekh. Inst., Kiev, USSR). *Zh. Org. Khim.* 1970, 6(1), 51–5 (Russ). The reaction of RCOCl (R is 1-adamantyl) with CH_2N_2, followed by decompn. with HBr or HCl gave $RCOCH_2X$ (X is Br or Cl); in the same way RCH_2COCH_2X was prepd. The reaction of 1-bromoadamant-3-ylcarbonyl chloride with CH_2N_2, followed by treatment with HCl gave 3-chloro-1-adamantyl bromomethyl ketone. Similarly, 3-bromomethyl-1-adamantyl bromomethyl ketone was prepd. The reaction of RCOCl with $EtOMgCMe(CO_2Et)_2$ followed by ketonic cleavage gave RCOEt, which was brominated in EtOH to RCOCHBrMe. Bromination of RCOMe with excess Br gave 3-bromoadamantyl dibromomethyl ketone. The bromination of RCH_2CHO gave successively RCHBrCHO and $RCBr_2CHO$. CPJR

REEL/FRAME

19751735

USSR

UDC 621.43.011:533+621.5.533

SVETS, A. I., ISAYEV, S. P.

"Annular Jet in a Satellite Flow"

Tr. II Resp. konf. po aerogidromekh., teploobmenu i massoobmenu. Sekts. "Aerodinamika bol'sh. skorostey" (Works of the II Republic Conference on Aerohydromechanics, Heat Exchange and Mass Exchange. "High-Speed Aerodynamics" Section), Kiev, Kiev University, 1971, pp 160-164 (from RZh-Mekhanika, No 6, Jun 72, Abstract No 6B376)

Translation: The results of experimental studies of a flow behind a cylindrical model when there is a supersonic annular jet flowing into a submerged space and into a satellite flow in a range beyond calculation p_a/p_∞ = 0.1-15, where p_a is the pressure at the end of the annular nozzle and p_∞ is pressure in the incident flow or in the submerged space. The Mach numbers of the outer flow are $M_\infty \leq 3$ and $M_a \leq 3.8$ at the cutoff of the nozzle. The pressure distribution in the bottom region, the geometrical characteristics of the flow and the spectrum of noises of the annular jet were investigated. It is

1/2

USSR

SVETS, A. I., ISAYEV, S. P., Tr. II Resp. konf. po aerogidromekh., teploobmenu i massoobmenu. Sekts. "Aerodinamika bol'sh. skorostey", Kiev, Kiev University, 1971, pp 160-164

shown that the relative bottom pressure p_g/p_∞ decreases for flow of the jet into the submerged space in the range p_a/p_∞ = 0.1-0.8 and increases in flow into the satellite current (p_a/p_∞ = 0.1-5). The geometry of the flow of the jet into the submerged space and the satellite current is shown in graphs. Measurements showed that the maximum of the relative value of the intensity of sonic radiation is achieved for p_a/p_∞ = 0.4-0.6, agreeing with similar measurements for axisymmetric jets. It is noted that other discrete tones are present in the spectrum along with the discrete component characteristic of axisymmetric jets. I. N. Murzinov.

2/2

1/2 044 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--FLOW IN THE BASE REGION IN THE CASE OF SUPERSONIC STREAMLINE FLOW AROUND BODIES -U-

AUTHOR-(02)-ISAYEV, S.P., SHCHVETS, A.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, MEKHANIKA ZHIDKOSTI I GAZA, NO 1, JAN-FEB 70, PP 25-32

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SUPERSONIC FLOW, STREAMLINE FLOW, CONIC BODY, TURBULENT BOUNDARY LAYER, REYNOLDS NUMBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0212 STEP NO--UR/0421/70/000/001/0025/0032

CIRC ACCESSION NO--AP0103884

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--23OCT70

2/2 044

CIRC ACCESSION NO--AP0103884

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DEALS WITH RESULTS OF RESEARCH ON THE STRUCTURE OF BLOW BEHIND CONICAL AND SECTORIAL BODIES, SUPERSONIC FLOW BEING COMPARED WITH SUBSONIC FLOW. MODELS OF POINTED AND BLUNT CONES, WITH VALUES THETA OF THE HALF ANGLES OF TAPER EQUAL TO 10, 20 AND 30 DEGREES AT THE CONE APEX, WERE TESTED IN A WIND TUNNEL. THE DIAMETER OF THE BASE SECTION OF THE CONES WAS EQUAL TO 130 MM. THE MODELS OF THE SECTORIAL BODIES CONSITUTED A CONJUNCTION OF AN INVERSE TRUNCATED CONE WITH AN 8 DEGREE ANGLE OF TAPER WITH LEADING PARTS IN THE FORM OF SPHERICAL SEGMENTS WITH THE RATIOS R EQUALS H-R EQUAL TO 0.2, 0.5 AND 1.0. THE DIAMETER OF THE LARGE BASE OF THE CONE EQUALS 120 MM, THE LENGTH OF THE TRUNCATED CONE IS 120 MM. THE REYNOLDS NUMBERS, REFERRED TO 0.1 M AND DETERMINED ACCORDING TO THE PARAMETERS OF THE AIRSTREAM, VARIED BETWEEN 1.2 TIMES 10 PRIME6 TO 3.0 TIMES 10 PRIME6. A TURBULENT BOUNDARY LAYER FORMED ON THE TRAILING EDGE OF THE TESTED BODIES.

UNCLASSIFIED

USSR

ISAYEV, S. P., SHCHVETS, A. I.

"Flow in the Base Region in the Case of Supersonic Streamline Flow Around Bodies"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 1, Jan-Feb 70, pp 25-32

Abstract: The article deals with results of research on the structure of flow behind conical and sectorial bodies, supersonic flow being compared with subsonic flow. Models of pointed and blunt cones, with values θ of the half-angles of taper equal to 10, 20 and 30 degrees at the cone apex, were tested in a wind tunnel. The diameter of the base section of the cones was equal to 130 mm. The models of the sectorial bodies constituted a conjunction of an inverse truncated cone with an 8-degree angle of taper with leading parts in the form of spherical segments with the ratios $t = h/r$ equal to 0.2, 0.5 and 1.0. The diamater of the large base of the cone equals 120 mm, the length of the truncated cone is 120 mm.

The Reynolds numbers, referred to 0.1 M and determined according to the parameters of the airstream, varied between 1.2×10^6 to 3.0×10^6. A turbulent boundary layer formed on the trailing edge of the tested bodies.

1/1

UDC 669.184.244.66

USSR

TRAVIN, O. V., ZIN'KO, B. F., SHUMOV, M. M., ISAYEV, V. A., ZHUKAYEV, G. M., and SOBKIN, S. I.

"Kinetic Specifics of the Process of Deoxidation During Production of Low-Carbon Rimming Steel"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 93-100

Translation: The mass transfer conditions between slag and metal in the process of deoxidation of low-carbon rimming steel in the ladle are studied. It is established that during the process of deoxidation the loss of manganese is determined by both the thermodynamic and the kinetic conditions. The influence of the pouring time, slag viscosity, moment of addition of deoxidizers and other kinetic parameters on manganese loss is determined. An equation is presented, allowing the manganese loss to be determined in advance on the basis of known parameters of the converter process, notch condition and other factors. 4 figures.

1/1

USSR

UDC 669.184.244.66

ZIN'KO, B. F., TRAVIN, O. V., SHUMOV, M. M., ISAYEV, V. A., and ZHUKAYEV, G. M.

"State of the Oxidation of Low-Carbon Converter Steel"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 100-104

Translation: In connection with the requirements for performance of more precise deoxidation, the thermodynamic and kinetic factors determining the level of oxidation of metal in a converter are analyzed. On the basis of diffusion concepts, an equation is derived allowing the actual content of oxygen in the bath to be determined on the basis of known parameters: content of carbon in the metal, concentration of ferrous oxide in the slag, and metal temperature. 3 figures; 3 biblio. refs.

1/1

USSR UDC 669.184.2.66-25K

ISAYEV, V. A., AFANAS'YEV, S. G., and STEPANOV, V. I.

"Specifics of the Kinetics of Desulfuration During Production of Steel in a Rotating Converter"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 104-107

Translation: Problems of the kinetics of desulfuration of metal during production of steel in a 3 T converter with two axes of rotation are studied.

It is established that a significant role in the process of desulfuration in the rotating converter is played by transition of sulfur to the gas phase, determined by the oxidation potential of the atmosphere over the converter bath. About half of all sulfur extracted from the metal is converted to the gas phase as the metal is blown in the rotating converter. The transition of sulfur to the gas phase is also determined by the distribution of sulfur between slag and metal, requiring improvement of the degree of contact between metal and slag for successful desulfuration. 5 figures; 1 biblio. ref.

1/1

USSR

UDC 669.184.244.66

ZIN'KO, B. F., TRAVIN, O. V., SHUMOV, M. M., ISAYEV, V. A., and ZHUKAYEV, G. M.

"State of the Oxidation of Low-Carbon Converter Steel"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 100-104

Translation: In connection with the requirements for performance of more precise deoxidation, the thermodynamic and kinetic factors determining the level of oxidation of metal in a converter are analyzed. On the basis of diffusion concepts, an equation is derived allowing the actual content of oxygen in the bath to be determined on the basis of known parameters: content of carbon in the metal, concentration of ferrous oxide in the slag, and metal temperature. 3 figures; 3 biblio. refs.

1/1

USSR

UDC 669.184.2.66-25K

ISAYEV, V. A., AFANAS'YEV, S. G., and STEPANOV, V. I.

"Specifics of the Kinetics of Desulfuration During Production of Steel in a Rotating Converter"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 104-107

Translation: Problems of the kinetics of desulfuration of metal during production of steel in a 3 T converter with two axes of rotation are studied.

It is established that a significant role in the process of desulfuration in the rotating converter is played by transition of sulfur to the gas phase, determined by the oxidation potential of the atmosphere over the converter bath. About half of all sulfur extracted from the metal is converted to the gas phase as the metal is blown in the rotating converter. The transition of sulfur to the gas phase is also determined by the distribution of sulfur between slag and metal, requiring improvement of the degree of contact between metal and slag for successful desulfuration. 5 figures; 1 biblio. ref.

1/1

UDC 669.184.244.66

USSR

TRAVIN, O. V., ZIN'KO, B. F., SHUMOV, M. M., ISAYEV, V. A., ZHUKAYEV, G. M., and SOBKIN, S. I.

"Kinetic Specifics of the Process of Deoxidation During Production of Low-Carbon Rimming Steel"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 93-100

Translation: The mass transfer conditions between slag and metal in the process of deoxidation of low-carbon rimming steel in the ladle are studied. It is established that during the process of deoxidation the loss of manganese is determined by both the thermodynamic and the kinetic conditions. The influence of the pouring time, slag viscosity, moment of addition of deoxidizers, and other kinetic parameters on manganese loss is determined. An equation is presented, allowing the manganese loss to be determined in advance on the basis of known parameters of the converter process, notch condition and other factors. 4 figures.

1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--THE LENINGRAD METAL PLANT IMENI XXII-ND CONGRESS OF THE CPSU IN THE STRUGGLE FOR THE CONSTRUCTION OF LARGE TURBINES -U-

AUTHOR--ISAYEV, V.A.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, ENERGOMASHINOSTROYENIYE, NO 3, 1970, PP 48-49

DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--TURBINE, MACHINERY MANUFACTURING PLANT

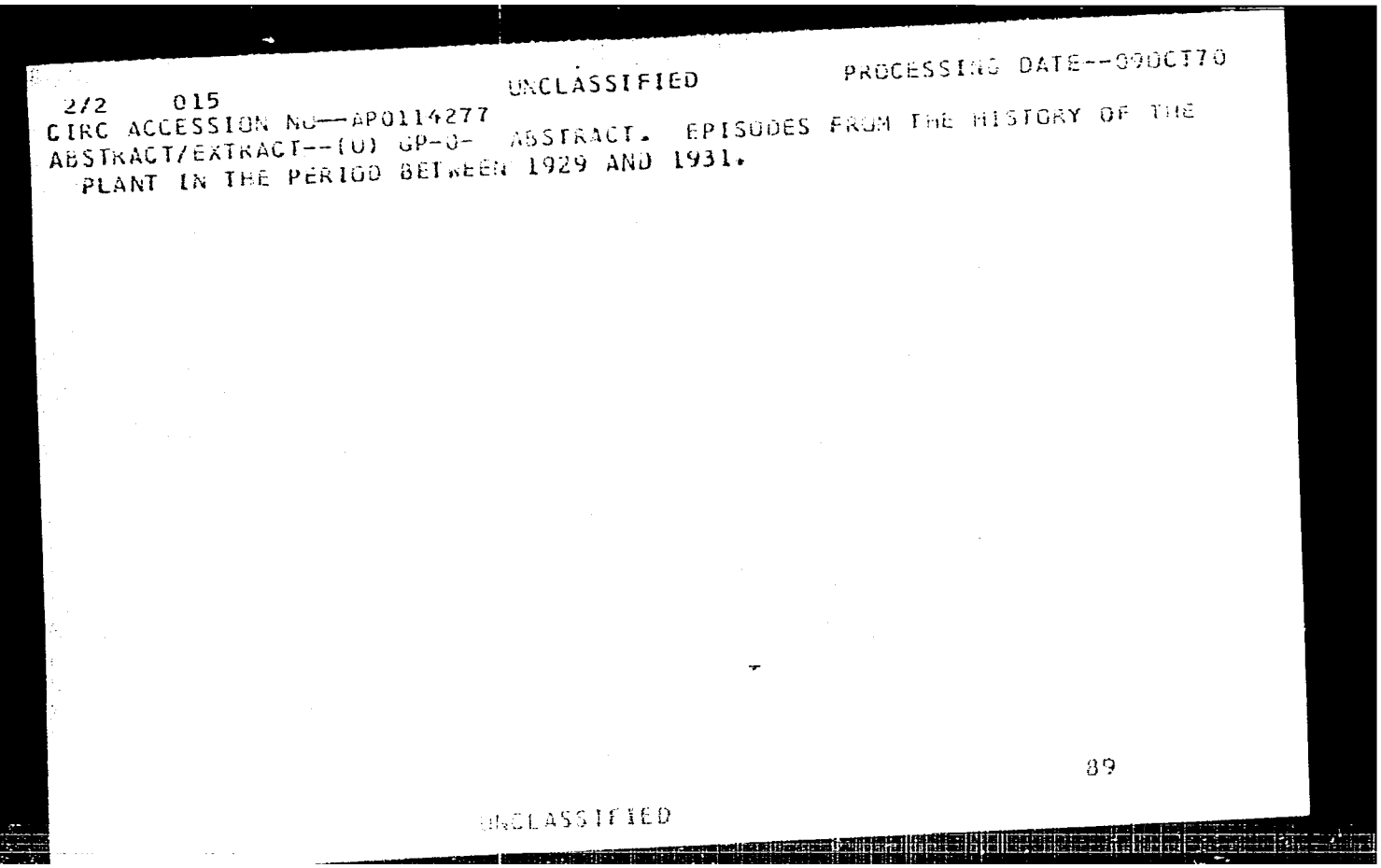
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/1778 STEP NO--UR/0114/70/000/003/0048/0049

CIRC ACCESSION NO--AP0114277

UNCLASSIFIED



UNCLASSIFIED PROCESSING DATE--09OCT70

2/2 015

CIRC ACCESSION NO--AP0114277

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EPISODES FROM THE HISTORY OF THE PLANT IN THE PERIOD BETWEEN 1929 AND 1931.

89

UNCLASSIFIED

USSR

UDC 616.155.392-085.277.3-059:615.37

SKURKOVICH, S. V., BULYCHEVA, T. I., KOVALEVA, L. G., and ISAYEV, V. G., Laboratory of Immunology and Virology of Leukoses and Hematology Clinic, Central Institute of Hematory and Blood Transfusion, Ministry of Health USSR

"Active Immunization of Acute Leukemia Patients with Live Allogenous Leukotic Cells Combined with Antileukosis Drug Therapy"

Moscow, Problemy Gematologii i Perelivaniya Krovi, No 5, 1970, pp 32-35

Abstract: A group of nine patients with acute leukemia received intravenous and intramuscular injections of leukotic cells from other such patients, after which they were treated with various drugs (prednisolone, 6-mercaptopurine, methotrexate, vincristine). The response was almost immediate - lowering of body temperature, improvement of sleep and appetite, shrinkage of lymph nodes and parenchymatous organs, cessation of hemorrhages, etc. Five of the nine had remissions lasting an average of 9.1 months and a lengthening of the life span by 18 months. On the other hand, in a group of control patients (treated with drugs alone), the remissions lasted only five months on the average and the life span was extended by just 6-7 months.

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--METHOD FOR OBTAINING O,ALKYL,O,ACYL,BETA,DIALKOXYBORO,ETHYLTHIOPHOSPHONATES -U-

AUTHOR-(04)-STERLIN, R.N., ISAYEV, V.I., KRYLOV, V.F., BORISOVA, G.N.

COUNTRY OF INFO--USSR

SOURCE--AUTHOR CERTIFICATE NR 264393
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, NR 9,
DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHOSPHORUS SULFIDE, ORGANIC PHOSPHORUS COMPOUND, ORGANOBORON COMPOUND, CHEMICAL SYNTHESIS, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1771 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0137011

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0137011

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS ANNOUNCED FOR OBTAINING N,ALKYL O,ACYL,BETA,(DIALKOXYBORO) ETHYLTHIOPHOSPHONATES BY REACTING ACYL HALIDES WITH ALKALI SALTS OF O,ALKYL,BETA,(DIALKOXYBORO)ETHYLTHIOPHOSPHONIC ACID IN AN ORGANIC SOLVENT. THE PROCESS IS CONDUCTED AT 60-80 C AND PRODUCTS ARE SEPARATED BY KNOWN METHODS.

UNCLASSIFIED

USSR UDC: 621.372.852.3

ISAYEV, V. N.

"The DK1-6 Master Installation for Calibrating Attenuators"

Tr. VNII fiz.-tekhn. i radiotekhn. izmereniy (Works of the All-Union Scientific Research Institute of Physicotechnical and Radio Engineering Measurements), 1970, vyp. 2(32), pp 6-15 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5A206)

Translation: The author presents the technical characteristics and describes the block diagram of the DK1-6 installation for calibrating attenuators. Data are given from calculation of errors in measurement of attenuation and phase displacement on the installation. Two illustrations, bibliography of one title. Resumé.

1/1

USSR

UDC 621.039.51

ISAYEV, N. V., and PETROV, V. N.

"Effectiveness of Eccentrically-Placed Absorbers in a Uranium-Water Critical Assembly"

Fiz. Yadern. Reaktorov [Nuclear Reactor Physics -- Collection of Works], No 2, Moscow, Atomizdat Press, 1970, pp 183-186 (Translated from Referativnyy Zhurnal--Yadernyye Reaktory, No 3, 1971, Abstract No 3.50.62)

Translation: Certain results are described from a calculation and experimental study of the effectiveness of eccentrically placed absorbers in a uranium-water critical assembly. The effectiveness of the absorbers was determined experimentally by measuring the critical heights of the uranium-water assembly without the absorbers H_1 and with the absorbers H_2 with subsequent integration of the dependence $\delta\rho/\delta H = f(H)$ within limits of H_1 to H_2. The M_1 critical assembly used in the experiments, part of the "Lada" test stand, is a heterogeneous uranium-water system with type EK-10 fuel elements, placed in a square lattice with a spacing of 17 mm. The design of the control organs of the assembly allows the creation of "pure" active core zones, i.e., zones without absorbers. The experimental dependence $\delta\rho/\delta H = f(H)$ was produced by the method of supercritical tuning of the reactor. The reactivity was determined in

USSR

ISAYEV, N. V., and PETROV, V. N., Fiz. Yadern. Reaktorov, No 2. Moscow, Atomizdat Press, 1971, pp 183-186

shares of β_{eff} by the excursion time using the U^{235} inhour formula. The excursion time T was between 50 and 1,000 sec, allowing the contribution of prompt neutrons to reactivity to be ignored. When the load on the core was changed, dependences $\delta\rho/\delta H = f(H)$ and $\rho=\rho(H)$ were produced for the "pure" assembly. The dependence $\rho = \rho(H)$ was used to process the experimental data on the effectiveness of the absorbers. 7 biblio. refs.

2/2

USSR UDC 669.14.018.45-13:621.771.0.14:539.374

GUN, G. YA., POLUKHIN, P. I., SKUGOREV, V. S., GALKIN, A. M., ZHUCHIN, V. N., ISAYEV, V. A., KARLOV, S. V., and ZAPOROZHTSEV, YU. V., Moscow Institute of Steel and Alloys

"Investigation of the Resistance to Deformation and the Indicators of Plasticity of Heat-Resistant Alloys on a Nickel Base"

Moscow, Izvestiya VUZ, Chernaya Metallurgiya, No 11, 1973, pp 92-97

Abstract: In this article the authors cite the results of an investigation on resistance to deformation of heat-resistant alloys EP199, EP220, and EI929 on a nickel base in wide temperature range and deformation rate. They have constructed curves for the change in the indicators of plasticity in a broad range of temperature-rate conditions of deformation.

(41)

USSR

GUN, G. YA., et al., Izvestiya VUZ, Chernaya Metallurgiya, No 11, 1973, pp 92-97

The research was carried out because of the reality at the present time for knowledge of the behavior of materials with respect to resistance to deformation and indicators of plasticity in a range that varies broadly for the temperature and rate of deformation.

The first three illustrations depict curves of deformation resistance of the above alloys as a function of the size and amount of deformation at various temperatures. The fourth figure shows change in values of ψ and δ of these heat-resistant alloys as a function of temperature and rate of deformation.

The article contains four illustrations and 3 bibliographic references.

2/2

USSR

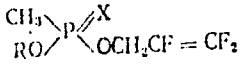
UDC 547.341.26.118.07

KAINOV, Yu. N., ISAYEV, V. L., and STERLIN, R. N.

"A Method of Producing 2,3,3-Trifluoroallyl Esters of O-Alkylmethylphosphonic or Thionphosphonic Acids"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 16, Jun 73, Author's Certificate No 375298, Division C, filed 11 Aug 71, published 23 Mar 73, p 51

Translation: This Author's Certificate introduces a method of producing 2,3,3-trifluoroallyl esters of O-alkylmethylphosphonic or thionphosphonic acids of the general formula



where R is an alkyl, and X is oxygen or sulfur. As a distinguishing feature of the patent, an O-alkylmethylphosphonic or thionphosphonic acid chloride is reacted with 2,3,3-trifluoroallyl alcohol in an organic solvent such as ether in the presence of a hydrogen chloride acceptor such as a tertiary amine with subsequent isolation of the goal product by conventional methods.

1/1

USSR

UDC: 8.74

ISAYEV, V. P., POPOV, M. F., POPOV, R. A.

"On the Problem of Evaluating Functioning of the 'Operator — —Control Panel' Link by Digital Computer Modeling"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 7, Moscow, "Sov. radio", 1972, pp 133-139 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V647)

Translation: The paper deals with questions of functioning of the "operator — control panel" link. It is proposed that a model realized on a digital computer be used for evaluating the quality of operation of the link. A flowchart is given as well as the results of modeling, which enable evaluation of the operating quality of the "operator — control panel" link by integral estimation of the time expended in preselecting, checking and transmitting a command. Authors' abstract.

1/1

USSR

UDC: 8.74

ISAYEV, V. P., POPOV, M. F., and POPOV, R. A.

"The Problem of Evaluating the Functioning of the 'Operator-Control Desk' Link Through Modeling on A Digital Computer"

Moscow, V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Techniques and Programming--collection of works) "Sov. Radio," 1972, pp 133-139 (from RZh--Matematika, No 8, 1972, Abstract No 8V647)

Translation: Problems of the functioning of the "operator-control desk" link are considered. To evaluate the quality of the link functioning, a model realized on a digital computer is proposed. A block diagram is given, along with the results of the modeling, to permit evaluation of the functioning of the link by an integral computation of the time spent in the collection, control, and transmission of commands. Authors' abstract

1/1

USSR UDC 621.3.049.63

PETROV, E. M., KHRYCHEV, L. I., FILIPPOV, V. Ye., LUPANOV, V. Ye., ZABORSKIY, V. N., ISAYEV, V. S.

"A Device for Attaching Wire Leads to the Contact Areas of Integrated Circuits"

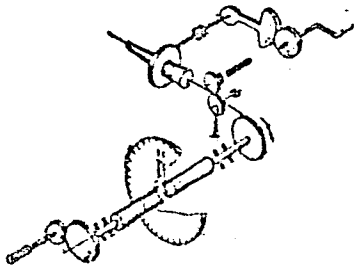
Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 7, Mar 71, Author's Certificate No 295217, Division H, filed 21 Apr 69, published 4 Feb 71, p 172

Translation: This Author's Certificate introduces a device for attaching wire leads to the contact areas of integrated circuits. The device contains a drum on which a wire is wound, drive rolls, a guide capillary and a unit for checking the strength of the joint between the leads and the contact areas. As a distinguishing feature of the patent, the precision of measuring this joint strength is improved by fastening the drum on one end of a torsion spring carrying an angle-of-turn indicator, the other end of this spring being connected to the drive mechanism.

1/2

USSR

PETROV, E. M., ec al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 7, Mar 71, Author's Certificate No 295217, Division H, filed 21 Apr 69, published 4 Feb 71, p 172



2/2

UDC 616-002.71-036.2(470)

USSR

MATKOVSKIY, V. S., Docent, DMITRIYEV, O. I., Candidate of Medical Sciences, and ISAYEV, Ye. N., Department of Infectious Diseases (Head-Docent V. S. Matkovskiy) Military Medical Academy imeni S. M. Kirov, Leningrad

"New Data on the Spread of "Far Eastern" Scarlatina-Like Fever (Pseudotuberculosis) in the RSFSR"

Moscow, Sovetskaya Meditsina, Vol 33, No 7, Jul 70, pp 132-135

Abstract: "Far Eastern" scarlatina-like fever is a new infectious disease which was detected in 1957 and identified as a special form of pseudotuberculosis in 1965. The pathogen, Pasteurella pseudotuberculosis Pfeifferi, is transmitted by certain rodents and is contracted by human beings through the gastrointestinal tract. For a long time it was believed that this disease was restricted to the Far East. In February and March 1969, a mass outbreak occurred in several Leningrad kindergartens, involving 78 children aged 4 to 7, as well as eight adult staff members. Because of the diverse symptoms, the illness was variously diagnosed as scarlet fever, tonsillitis, influenza, german measles, and, in one case appendicitis. Since conventional treatment was ineffective, comprehensive epidemiological, clinical, and laboratory investigations were performed, and the disease was finally diagnosed as pseudotuberculosis. The source of the infection was rapidly tracked down. All of the kindergartens affected regularly served raw vegetables purchased

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201120003-0"

USSR

MATKOVSKIY, V. S., et al., Sovetskaya Meditsina, Vol 33, No 7, Jul 70, pp 132-135

from the same seller. The storage facilities were inspected and rodents found there were subjected to laboratory tests in which Pasterella pseudotuberculosis was isolated. Since the disease is no longer restricted to the Far East, physicians are urged to be on the alert for it when they observe atypical cases of scarlet fever, German measles, acute appendicitis, or hepatitis.

USSR UDC 576.858.75.098.31

ZHUMATOV, Kh. ZH., ISAYEVA, Ye. S., CHUVAKOVA, Z. K., and STETSENKO, O. G., Laboratory of General Virology, Institute of Microbiology and Virology, Academy of Sciences, Kazakh SSR, Alma-Ata

"Study of the Electrophoretic Mobility and Immunospecificity of Influenza Virus and Host Cell Neuraminidases"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 6, 1972, pp 68-71

Abstract: A comparative study was conducted of the electrophoretic mobility of neuraminidases from different influenza virus strains and from cells of chick embryo chorioallantois, the medium most widely used to maintain this virus. The specificity of the individual zones on the electrophoregrams of the enzyme was determined serologically. The electrophoretic mobility of neuraminidase from the A^2 (Singapore/57) and A^2 (Alma-Ata 397/57) strains was found to be different from that of the A^2(Alma-Ata 454/65) and A^2 (USSR 0467/69) strains, but the latter two strains were similar in this respect. Neuraminidase from the host cells, unlike that of the virus, was bound to a rapidly moving component in the electrical field. However, components with identical electrophoretic mobility appeared in preparations of both cellular and viral neuraminidase.

1/1

Corrosion

USSR

UDC 669.71.472

NEROSLAVSKAYA, L. L., ISAYEV, YU. A., NAZVICH, M. G.

"Anticorrosion Protection of Smokestacks of Aluminum Electrolysis Shops"

Tr. Vses. n.-i. i proyektn. in-ta alyumin., magn. i elektrodn. prom-sti (Works of the All-Union Scientific Research and Planning and Design Institute of Aluminum, Magnesium and Electrode Industry), 1970, No 71, pp 231-238 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G162)

Translation: The state of the art in problems of corrosion resistance of smokestacks, their operating conditions, application of protective media, and also the results of investigation and selection of means of chemically protecting smokestacks from corrosion and lengthening their service lives are discussed. Tests were run under natural and laboratory conditions to consider the characteristics of the medium in which the smokestacks of the aluminum electrolysis shops operate. The test results were estimated visually by analytical means and by measuring the degree of corrosion of the smokestack materials and protective materials. Thus, various groups of protective materials were tested: organic materials and coatings, metal materials and coatings, paint and varnish coatings, polymer materials, and so on. It was determined that the basic means of improving the service life of smokestacks

1/2

USSR

NEROSLAVSKAYA, L. L., et al., Tr. Vses. n.-i. i proyektn. in-ta alyumin., magn. i elektrodn. prom-sti, 1970, No 71, pp 231-238

consists in improving the gas purification system. Structural improvement insuring convenience and simplicity of observing the state of the smokestacks and operation of them have little significance. Chemically stable materials can also be used: structural steels types EI-943 and EI-629, coatings made of cold-congealing Nairit, type E-4100 lacquer with graphite (hot drying). The quality of preparing the metal shaft of the smokestacks plays a significant role. There are 3 tables and 1 illustration.

2/2

USSR

620.1.05:539.893:531.787:62.5

DOLGUSHIN, G. G., ISAYEV, YU. I.

"Universal Test Stand for 20,000 kg/cm^2 Pressure"

Tr. Metrol. In-Tov SSSR, Vyp. 104(164), [Works of Metrological Institutes of USSR, No. 104(164)], pp 144-147 (translated from Referativnyy Zhurnal Metrologiya I Izmeritel'naya Tekhnika, No. 4, 1970, Abstract No. 4.32.715 by M. I. M.)

Translation: A universal device for the performance of various research operations in the range of high pressures up to 20,000 kg/cm^2 is described. The installation includes units for the creation and measurement of pressure, control devices and protective devices. The technical characteristics of the test stand are presented. The highest operating pressure of the generator is 20,000 kg/cm^2; the volume of liquid delivered by one stroke of the multiplier piston is 10 cm^3; the error in pressure measurement is not over 1.0 percent of the measured quantity; the dimensions of the protective casing of the generator are 1700 by 920 by 1950 mm; the highest operating pressure of the pumps and hand presses of the control panel are 2500 and 400 kg/cm^2 respectively; the delivery per stroke is 0.5 and 20 cm^3. Two illustrations, two biblio. refs.

1/1

USSR

UDC 518:517.944/.947

BAUTIN, A. V., KONOVALOV, A. P., ISAYEV, Yu. V., and SLIVA, A. V.

"Problems in Constructing Algorithms for Solving Equations in Mathematical Physics as Applied to Electrical Engineering Problems"

Moscow, Primeneniye vychisl. tekhn. v elektrotekhn. prom-sti -- Sbornik (Application of Computers in the Electrotechnical Industry -- Collection of Works), 1971, pp 347-353 (from Referativnyy Zhurnal -- Matematika, No 7, July 71, Abstract No 7B957, by I. Shelikhova)

Translation: Problems associated with constructing algorithms for solving nonlinear equations of the elliptical and parabolic types as applied to electrotechnical problems are examined. An algorithm is presented for solving the first boundary value problem that arises when calculating the nonstationary mode of a thermoelectric transformer using a locally one-dimensional problem in conjunction with the method of successive approximations. Sufficient conditions for the convergence of the iterative process are derived.

1/1

(2)

USSR

UDC 632.95

ISMAYLOV, R. G. A., GUSEYNOV, D. M., MEKHTIYEV, S. D., SHCHEGOL', Sh. S., ISAYEVA, F. G. A., KONYSHEV, I. N.

"Plant Growth Regulator"

USSR Author's Certificate No 334961, Filed 30/07/69, Published 24/05/72 (Translated from Referativnyy Zhurnal Khimiya, No 24(II), 1972, Abstract No 24N643 P, by T. A. Belyayeva)

Translation: It is suggested that the Na-salt of octyltoluic acid (I) be used as a plant growth regulator. I is produced by alkilation of xylenes with diisobutylene with subsequent oxidation of tert-octylxylene with O_2 and neutralization of the acid with an aqueous solution of NaOH or soda. The influence of I on the coleoptiles of wheat sprouts and the growth of winter wheat roots is demonstrated.

1/1

USSR

UDC 547.558.1

YAKOVLEVA, YE. A., ISAKOVA, G. G., MAKHMATKHANOV, M. M., ZHIDKOVA, A. M., TSVETKOV, YE. N., KABACHNIK, M. I., and SHAMSHURYN, A. I., Physicochemical Institute imeni L. Ya. Karpov and Institute of Organoelemental Compounds, Academy of Sciences USSR

"Partial Rate Factors for Protophilic Deuteroexchange of Dimethylphosphine with Liquid Ammonia under Potassium Amide Catalysis"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 7, Jul 70, pp 1666-1671

Abstract: The authors undertook to determine the partial rate factors for deuteroexchange with liquid ammonia (KNH_2 catalyst, 25°) for all ring positions of dimethylphosphine. The deuterated dimethylphosphines were synthesized by the reaction of the corresponding organomagnesium compounds with dimethylphosphinic chloride and subsequent reduction of the resultant oxides with silicochloroform. The structure of the isomers was confirmed by IR spectra. The partial rate factors were calculated on the basis of measurements of the dedeuteration reaction rate constants for dimethyl-o-, -m-, and p-deuterophenylphosphine.

1/2

USSR

YAKOVLEVA, Ye. A., et al., Zhurnal Obshchey Khimii, Vol 40, No 7, Jul 70, pp 1626-1631

Approximate comparative data were also obtained on the protophilic dedeuteration rates for dimethyl-m- and p-trideuterotolylphosphines. The results indicated that the $(CH_3)_2P$ group was an electron acceptor in the reaction of protophilic isotopic hydrogen exchange with a strong base.

2/2

1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EQUILIBRIUM AND KINETIC ACIDITY OF P CARBORANE -U-

AUTHOR-(05)-PETROV, E.A., YAKOVLEVA, YE.A., ISAYEVA, G.G., KALININ, V.N., ZAKHARKIN, L.I.

CCUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(3), 617-19 (CHEM)

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CARBORANE, ISOMER, ISOTOPE EXCHANGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0694 STEP NO--UR/0020/70/191/003/0617/0619

CIRC ACCESSICN NO--AT0124366

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE—30OCT70

CIRC ACCESSION NO—AT0124366

ABSTRACT/EXTRACT—(U) GP-0— ABSTRACT. FROM METALATION EX PTS. WITH P CARBORANE IN (CH SUB2 OME) SUB2 AND CYCLO,C SUB6 H SUB11 NH SUB2 THE FOLLOWING PKA OF ISOMERIC CARBORANES WERE D4DUCED: O 233.3, M 27.9, P 30.0; FROM REACTIONS OF ISOTOPIC H EXCHANGE IN LIQ. NH SUB3 THESE WERE 19.2, 27, 29.4. THE RATE FOR THE P ISOMER HAD THE RATE CONST. K 4.2 TIMES 10 PRIME NEGATIVE6 SEC PRIME NEGATIVE1 AT 120DEGREES, AND 8.5 TIMES 10 PRIME NEGATIVE7 SEC PRIME NEGATIVE1 AT 50DEGREES.

FACILITY: FIZ. KHIM. INST. IM. KARPOVA, MOSCOW, USSR.

UNCLASSIFIED

ISAYEVA, I.K.

JPRS 59268
6-73

XIV-12. ORIENTATION RELATIONS AND SURFACE MORPHOLOGY OF EPITAXIAL LAYERS OF CADMIUM SULFIDE ON SAPPHIRE

[Article by A. N. Mentser, I. K. Isayeva, Moscow; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 204]

A study was made of the effect of the orientation of sapphire substrates on the surface morphology and orientation of epitaxial layers of cadmium sulfide. The noncorrespondence of the lattice parameters was calculated for a number of sapphire and cadmium sulfide planes.

The growth of cadmium sulfide layers on sapphire substrates oriented in the (0001), (1120), (1121), (1122), (1124), (1010), (1011), (1012) and other planes was carried out by the transport method in the current of hydrogen gas carrier. It was found that in the (0001), (1120) and (1014) planes of sapphire, cadmium sulfide grows in the (0001) plane. The orientation relations were determined for other sapphire planes and the surface morphology of the grown epitaxial layers of cadmium sulfide was studied. It was demonstrated that the orientation correspondence in the structure of sapphire and cadmium sulfide is observed only for the sapphire base plane.

On the basis of the experimental results with respect to growing epitaxial layers of cadmium sulfide in a flow system on different sapphire planes and investigation of their structural properties, conclusions were drawn regarding the selection of the crystallographic orientations of the sapphire substrates to obtain epitaxial layers of cadmium sulfide of high structural perfection.

UDC 632.954:635.342

USSR

ISAYEVA, L. I., and CHEKUNOVA, Z. I., Moscow Fruit Toxicological Laboratory, All-Union Institute of Plant Protection, and Scientific Research Institute of Fruit Growing

"The Use of Herbicides in Growing White Head Cabbage Seedlings"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 10, No 3, 1972, pp 52-56

Abstract: It has been established that the herbicides ramrod and preparation C-7019 may be used against weeds while growing cabbage seedlings under film covers. Ramrod could even be used in open planting of the seedlings. Optimal doses of ramroad are in the range of 5-6 kg/hectare, and that of the preparation C-7019 -- 2.0 kg/hectare. The herbicide should be applied prior to cabbage planting or when the seedlings and the weeds appear. The yield of standard seedlings is improved considerably by this treatment. No detrimental effect could be noticed on the growth of cabbage in open ground and the harvest of the heads of cabbage. The cost of the herbicide is fully compensated for by the gains in the quantity and the quality of the product.

1/1

USSR

UDC 621.791.052:620.193:669.295

BLASHCHUK, V. YE., Engineer, GUREVICH, S. M., Doctor of Technical Sciences, SHELENKOV, G. M., Engineer, Electric Welding Institute imeni Ye. O. Paton; TKACHENKO, N. N., Candidate of Technical Sciences, VASILENKO, I. I., Candidate of Technical Sciences, LISKEVICH, I. YU., Engineer, ZAFIYOVSKIY, YU. M., Engineer, ISAYEVA, K. M., Engineer, and MELENKOV, R. K., Engineer, Physico-mechanical Institute of the Academy of Sciences UkrSSR

"The Tendency of AT3 Titanium Alloy Welded Joints to Mechanical Corrosion Failure"

Moscow, Svarochnoye Proizvodstvo, No 1(471), Jan 74, pp 39-40

Abstract: A study was made of the tendency of AT3 titanium alloy and its welded joints to breakdown at increased temperature and pressure in a 0.6% solution of H_2SO_4, as applicable to the working conditions of hydrolytic apparatus. Specimens of AT3 alloy were cut from 24-mm-thick hot-rolled sheet. The failure of welded joints took place at stresses exceeding the yield limit of the alloy. The conditional limits of the corrosion-fatigue strength in axial load with symmetric tension and compression of AT3 alloy and its manually welded joints are close. Automatically welded joints show, in comparison with AT3 alloy,

1/2

(5)

USSR

BLASHCHUK, V. YE., et al., Svarochnoye Proizvodstvo, No 1(471), Jan 74, pp 39-40

some decrease in strength at stresses exceeding the conditional limit of corrosion-fatigue strength. The AT3 alloy and its welded joints show practically the same durability at cyclic torsion. AT3 alloy is recommended for the production of welded experimental hydrolytic apparatus. Four figures, one table, eight bibliographic references.

2/2

USSR

UDC 512.25/.26+519.3:330.115

ISAYEVA, M. N.

"The Maximum Possible Number of Basic Solutions in the Transport Problem"

Nauch. Zap. Tashkent. In-t Nar. Kh-va [Scientific Writings of Tashkent Economics Institute], No 34, 1970, pp 3-13, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V674 by S. Lebedev).

Translation: It is demonstrated that an obvious upper estimate for the number of basic solutions to the general problem of linear programming, C_n^m, high in the general case, is particularly high for the transport problem. Some formulas and asymptotic relationships are concluded for the closed transport problem. There are misprints.

1/1

USSR

UDC 632.93.631.53.01

ISAYEVA, N. V., Kaliningrad Agricultural Experiment Station

"The Control of Smut of Winter Wheat"

Moscow, Zashchita Rasteniy, No 2, Feb 73, pp 21-22

Abstract: The yields of winter wheat in Kaliningrad Oblast' were affected adversely by infection of this crop with smut. The degree of infection of winter wheat with hard smut amounted to 21.3-25.5 and 9.8%; with loose smut to 3.2-21.3 and 3.4% in the 5-year period from 1965-1970 and 1971, respectively. In experiments carried out in 1967-70 on wheat-wheat grass hybrid 1, the relative effectiveness of anaerobic and thermal treatment in freeing the seeds of infection with smut was determined. Anaerobic treatment was carried out by keeping the seeds in water or in an 0.03% $CuSO_4$ solution at 22-25°C for 4 hrs and then keeping the seeds at the same temperature for 4 days in airtight polyethylene bags. Finally the seeds were dried to the initial moisture content before being planted. Thermal disinfection was carried out by keeping the seeds at 47°C for 2 hrs. Thermal treatment disinfected the seeds completely, while disinfection by the anaerobic method resulted in a degree of infection of plants amounting to 1.07 and 0.96% on treatment in water and the $CuSO_4$ solution, respectively, vs. 2.23% for untreated controls. The optimum period of planting 1/2

USSR

ISAYEVA, N. V., Zashchita Rasteniy, No 2, Feb 73, pp 21-22

of winter wheat from the standpoint of reducing infection with smut was 5-20 Sep. In 1972 the Experiment Station distributed to farms 3200 centners of winter wheat seeds freed of smut. At the nurseries of the station, the thermal method of disinfecting seeds is used exclusively.

2/2

1/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SPECTROGRAPHIC ANALYSIS OF BINARY ALLOYS. I. ANALYSIS OF ZIRCONIUM AND HAFNIUM ALLOYS -U-
AUTHOR-(03)-KORNEYEV, V.A., BARINOV, I.P., ISAYEVA, O.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM.: 25: 732-6 (APR 1970)

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--SPECTROGRAPHIC ANALYSIS, BINARY ALLOY, ZIRCONIUM COMPOUND, HAFNIUM COMPOUND, SPECTROGRAPH, QUANTITATIVE ANALYSIS/(U)DFS8 SPECTROGRAPH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0457 STEP NO--UR/0075/70/025/000/0732/0736

CIRC ACCESSION NO--AP0126209
UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0126209
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHODS ARE SUGGESTED FOR THE DIRECT QUANTITATIVE SPECTROGRAPHIC ANALYSIS OF ZIRCONIUM HAFNIUM ALLOYS. SPECTRA WERE EXCITED IN A HIGH FREQUENCY SPARK (A COPPER ELECTRODE) AND PHOTOGRAPHED ON A DFS-I SPECTROGRAPH (DISPERSION 3 A-MM) WITH A THREE LENS SYSTEM OF SLIT ILLUMINATION. THE ANALYSIS OF ONE SAMPLE BY TWO SPECTRA TAKES ABOUT 30 MIN, THE ANALYSIS OF 20 SAMPLES TAKES ABOUT 3 HOURS.

UNCLASSIFIED

UDC 543.42

USSR

KORNEYEV, V. A., BARINOV, I. P., and ISAYEVA, G. I.

"Spectral Analysis of Binary Alloys in a Wide Range of Components. Communication 1. Analytical Methods for Zirconium and Hafnium Alloys"

Moscow, Zhurnal Analiticheskoy Khimii, Vol 25, No 4, Apr 70, pp 732-736

Abstract: Three methods for direct quantitative spectral analysis of Hf-Zr alloys in the concentration range 0.5-99.5% have been proposed: the method of three standards, and rapid methods of three lines and three-staged relaxator with mean square error of 5-7, 6-8, and 7-10% respectively. Spectra were excited in a high frequency spark (with a copper electrode) and polarographed on a DFS-8 spectrograph (with a dispersion of 3A/mm), using a three lens system of the slit illumination. The rapid methods permit the analysis to be carried out without using standards. The analysis of one sample by two spectra requires about 30 min, while analysis of 20 samples -- only 3 hrs.

1/1

R.N. ISAYEVA

Acc. Nr.: AP0042567 Ref. Code: UR0293

JPRS 56162

Measurements of Intermediate- and High-Energy Particles

(Abstract: "Measurements of Charged Particles of Intermediate and High Energies," by A. D. Bolyunova, A. D. Verevkin, Yu. I. Gal'perin, L. S. Gorn, L. S. Zhurina, I. D. Ivanov, R. N. Isayeva, I. P. Karpinskiy, E. A. Kovrazhkin, V. V. Temnyy, B. I. Khazanov, A. V. Shiffin and F. K. Shuyskaya; Moscow, Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 126-135) [Note: This is part of a sectionalized article "Study of Geoactive Corpuscles and Photoelectrons on the Satellite 'Kosmos-261'," Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 104-136]

This article describes the RIE-205 scintillation spectrometer for electrons of intermediate energies, the RIP-802 scintillation spectrometer for protons and the RIG-III lead-shielded Geiger counter. The RIE-205 instrument measured electrons in the ranges 20-45, 45-85, 85-120 and 120-150 keV and the total intensity of electrons with an energy greater than 150 keV (geometry factor $2 \cdot 10^{-3}$ cm^2·sterad). The RIP-802 instrument measured protons in the ranges 0.30-0.45, 0.45-0.70, 0.70-0.95 and 0.95-9 MeV with a geometry factor of $1.5 \cdot 10^{-2}$·sterad. The RIG-111 instrument measured

1/2

Reel/Frame 19760249

protons with E > 50 MeV and hard electrons. In the radiation belts and auroral zones the instruments measured the fluxes and energy spectra of electrons and protons, their distribution by pitch angles and spatial-temporal characteristics. It was possible to determine the latitude variation of the intensity of injected electrons, the pitch distribution of intensity for auroral zone electrons and the differential electron spectra. For example, the electron fluxes measured with the RIE-205 spectrometer can be assigned to the following groups: a) trapped electrons in the inner zone ($L \leq 2.5$) were registered for the most part in the region near the Brazilian anomaly; their flux for an energy $E > 150$ keV attained 10^6 particles/cm^2·sec, and was highly dependent on pitch angle; a pronounced maximum was observed for pitch angles 90°; b) trapped electrons in the outer zone $2.5 \leq L \leq 7$, also with a maximum intensity for pitch angles of 90°; in many cases quasitrapped particles were registered in the region of invariant coordinates $h_{min} \leq 100$ km with intensities up to $2 \cdot 10^6$ particles/cm^2·sec·sterad; c) sporadic hard electrons injected into the atmosphere in the middle latitudes; in these cases the mean energy was usually $\sim$100 keV and the particle flux attained 10^5 particles/cm^2·sec; d) electrons of intermediate and high energies injected into the atmosphere in the high latitudes; they are frequently observed near the auroral zone.

Acc. Nr. AP0048368 Abstracting Service: INTERNAT. AEROSPACE ABST. 5-70 ISAEVA R.N.

A70-24315 # Study of the geoactive particles and photoelectrons by means of satellite 'Kosmos-261.' IV—Study of charged particles with a middle and high energy (Issledovania geoaktivnykh korpuskul i fotoelektronov na sputnike 'Kosmos-261.' IV—Izmerenija zariazhennykh chastits srednikh i vysokikh energij). A. D. Bolunova, A. D. Verevkin, Iu. I. Gal'perin, L. S. Gorn, L. S. Zhurina, I. D. Ivanov, R. N. Isaeva, I. P. Karpinskii, R. A. Koyrazhkin, V. V. Temnyi, B. C. Khazanov, A. V. Shifrin, and F. K. Shuiskaia. *Kosmicheskie Issledovanila*, vol. 8, Jan.-Feb. 1970, p. 126-135. 7 refs. In Russian.

Descriptions of the scintillation spectrometers for measuring the electrons with energy ranging from 20 to 150 keV and more, protons with energy ranging from 0.30 to 9 MeV. A lead-screened Geigar counter for measuring the protons with energy above 50 MeV and rigid electrons is also described. The latitude-dependent intensity distribution of the intrusive electrons is determined together with the pitch distribution of the electron intensity in the auroral zone, and differential electron spectra. Z.W.

REEL/FRAME
19800076

Coatings

USSR

UDC 621.74.015:621.744.37

KUMAININ, I. B., BAUMAN, B. V., OREKHOV, A. I., ISAYEVA, T. A., SMOL'KIN, A. A., and ZOTOVA, N. G., Moscow Institute of Steel and Alloys"

Ceramic Antiscorching Coatings for Steel Castings"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 7, 1973, pp 53-56

Abstract: Antiscorching coatings with ceramic type bonding agents were developed on the base of metallophosphates. Starting materials for the production were orthophosphoric acid H_3PO_4, aluminum hydroxide $Al(OH)_3$, and chromium acid Cr_2O_3. The coatings possess high refractoriness and resistance, high thermal stability, and chemical inertia in the working temperature interval. They also have high technological qualities, as good covering power, and high sedimentation stability. The coatings do not contain scarce materials and are not expensive. Results of industrial tests are presented of antiscorching coatings on carbon steel and alloy steels. Comparative results of petrographic analyses of antiscorching coatings are discussed by reference to microsections of the mold and of metal-mold

1/2

Materials

USSR UDC 666.593.5

ISAYEVA, V. F., LIFSHITS, YU. A., FRIDBERG, I. D., KHRUSTALEVA, V. V., CHERNYDINOV, A. S.

"A Ceramic Material"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 22, 1970, Soviet Patent No 275192, Class No 21, Filed 31 Mar 69, p 46

Abstract: This Author's Certificate introduces a ceramic material based on silicons and titanates. As a distinguishing feature of the patent, a material with low dielectric dissipation factor in the SHF range is produced by using a sinter of forsterite and magnesium orthotitanate as the initial components of the charge, with forsterite making up as much as 50 percent of the total weight of the components.

1/1

USSR

ZUYEV, V. A., ISAYEVA, Ye. A., PETERS, V. V., and MIRCHINK, Ye. P., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences, USSR

"The Ability of the Viruses of Smallpox Vaccine and Fowl Plague of Birds to Form Plaques Under a Semiliquid Methylcellulose Cover"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 71, p 491

Translation: A cover medium containing methylcellulose was used to study the ability of vaccinia viruses and fowl plaque virus of birds to form plaques. After 48-72 hours of inocubation, the viruses form distinct macroplaques with a diameter of 1.5-2.5 mm. The method requires no concentrated media, is easy to perform, and yields reproducible results.

1/1

UDC 616.988.75-085.371-035.2

USSR

KOSYAKOV, P. N., ROVNOVA, Z. I., and ISAYEVA, Ye. I., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"The Importance of Antibodies and Interferon in Resistance to Influenza Virus in Early Stages of Immunization"

Moscow, Voprosy Virusologii, No 2, 1973, pp 172-175

Abstract: The relative importance of antibodies and interferon in influenza immunity were investigated on 3 groups of 16-18 g male mice. One group served as a control, another group was immunized intravenously with an influenza virus A/PR-8 vaccine, and a third group was treated intranasally with Newcastle disease virus (NDV) to induce interferon production. Blood and lung biopsies were tested at 4 and 24 h to determine interferon titers in the three groups through CPE inhibition in L cell tissue cultures induced by vesicular stomatitis virus. The results showed that the NDV-treated group had interferon present in both tissues by 4 h, and titers ranging from 1:32 to 1:64 in the lungs by 24 h, and from 1:16 to 1:64 in the blood. The immunized group showed the presence of interferon in the blood and in the lungs by 4 h, but not by 24 h, while the control group was negative at all times. Challenge with a living influenza A/PR-8 virus 4, 24, and 48 h after immunization or NDV treatment resulted in significant lowering of mortality only in the immunized group. In another

USSR

KOSYAKOV, P. N., et al., Voprosy Virusologii, No 2, 1973, pp 172-175

series of experiments studies were conducted on daily mortality following viral challenge 4 or 24 h after immunization or NDV treatment. The studies showed that while in all cases interferon showed some effectiveness in reducing mortality during the first 7-8 days, by day 14 the mortality for the immunized mice was 38.4%, for the NDV treated mice 67.6%, and for the control group 67.7% in animals challenged at 4 h. The final mortality figures for the animals challenged at 24 h at day 14 were, for the immunized, NDV treated, and control mice, respectively: 19.2%, 75.3%, and 62.3%. The data thus show that immunization with the formol vaccine was effective in eliciting protecting antibodies, and that interferon played a transient protective role during the first week of infection with influenza virus A/PR-8. In the immunized animals complement fixing antibodies were present in titers of 1:10 to 1:20 by 24 h, and virus neutralizing antibodies were also detected.

2/2

USSR UDC 536.421/422/423:620./8

GRIBKOV, V. N., ISAYKIN, A. S., SHCHETANOV, B. V., UMANTSEVA, E. L., and MUKASEYEV, A. A., Moscow

"Vapor-Liquid-Solid Mechanism of Filamentary Crystal Growth of High-Melting Metals"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 3, May/Jun 73, pp 62-67

Abstract: Growing SiC whiskers from $SiCl_4$ or $SiHCl_3$ at 1300-1500°C showed that whiskers are produced only in those cases when free silicon is condensed within the growth zone. If changes in temperature or in the composition of mixtures $SiCl_4:H_2$ or $SiHCl_3:H_2$ were such that the condensation of Si was prevented, whiskers were not produced. When temperature decreased below 1430°C (i.e., below the m.p. of Si) the whisker growth was terminated. Metal-like drops were observed at the top of all whiskers when the ratio of $F_{Si} - F'_{Si}/F_C - F'_C$ was sufficiently large (F and F' represent the concentration of atoms of corresponding elements in the gaseous phase and those evaporating from the liquid metal drop, respectively). X-ray diffraction analysis of these drops showed that they consisted of silicon. When the above ratio was optimal, whiskers up to 30 mm long and from 0.1 to 0.3 μm in diameter were grown. In the presence of aluminum, SiC whiskers were grown successfully at 1250-1600°C

1/2

USSR

GRIBKOV, V. N., et al, Moscow, Fizika i Khimiya Obrabotki Materialov, No 3, May/Jun 73, pp 62-67

and were 20-30 mm long and 1-5μm in diameter. Droplets at the end of these whiskers consisted of Al-Si; in many cases the concentration of Al was 95-100%. The addition of Fe and Ni also intensified the growth of SiC whiskers. Droplets at the ends of these whiskers consisted of Fe-Si and Ni-Si. In the presence of these elements, whiskers were grown successfully at temperatures above 1350°C for nickel and 1400-1420°C for iron. In experiments with α-Al_2O_3 whiskers the necessary condition for growth was the presence of Si, SiO_2, or Fe_2O_3 in the reaction zone. Thus, aluminum, iron, and nickel can serve as additives for the growth of SiC whiskers. In the case of α-Al_2O_3 additives can be either silicon or iron.

2/2

USSR UDC 548.522

ISAYKIN, A. S., GRIBKOV, V. N., SHCHETANOV, B. V., SILAYEV, V. A., and LEVINSKAYA, M. KH.

"Growth of Filamentary Aluminum Oxide Crystals During Reduction of Aluminum Oxide"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan/Feb 73, pp 112-119

Abstract: Thermodynamic analysis of aluminum oxide reduction by hydrogen and carbon showed that Al_2O produced the highest pressure among the gaseous reaction products and that Al_2O was primarily responsible for the mass transfer in the gaseous phase. A participation of aluminum vapors in this process was determined by the pressure of CO vapors within the reduction zone of alumina. Reduction of Al_2O_3 by C and H produced mainly Al_2O and Al, and the pressure of Al_2O was three times as high when the reduction was accomplished by carbon. A difference in temperatures between reduction and condensation zones of the order of 200-300°C produced a supersaturation equaling 10. Corundum whiskers were successfully grown in the presence of hydrogen when the difference in temperature between reduction and condensation zones was 60-80°C. A rapid growth of whiskers was observed at 2000-2050°C in the reduction zone when this temperature difference amounted to 150°C and the

1/2

USSR

ISAYKIN, A. S., et al, Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan/Feb 73, pp 112-119

supersaturation was S≈5. The diameter of whiskers in this case was 10-30μ and they were 20-25 mm long. When the difference in temperature between zones was 200-220°C, the whiskers were 1-10μ in diameter and 8 mm long, but they had many defects. The whiskers were of irregular shape and very small when the temperature difference was 250-280°C. A condensation of aluminum droplets in the growing zone of whiskers led to the conclusion that the initial crystallization centers originated in these droplets and the growth of corundum whiskers in this process took place according to the vapor - liquid - solid phase mechanism.

2/2

Aluminium and Its Alloys

USSR UDC 548.522:546.621.21

GRIBKOV, V. N., ISAYKIN, A. S., UMANTSEV, E. L., and SHCHETANOV, B. V.

"Growth of α-Al_2O_3 Whiskers During Oxidation of Aluminum"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, No 7, 1972, pp 1249-1255

Abstract: Although the method of production of α-Al_2O_3 whiskers during oxidation of aluminum in moist hydrogen has been known for some time, a great deal remains unclear in the process. It has been assumed that mass transfer is conducted by the oxides Al_2O or AlO, formed by interaction of liquid aluminum with moisture. Later it was found that growth occurs only in mullite ceramic, containing SiO_2. It was therefore assumed that the aluminum is oxidized not by moisture, but by silicon monoxide. However, no experimental proof has been conducted. Therefore, this work studied the role of SiO_2 and its influence on growth, composition, and many other parameters. Whiskers were grown at 1,000-1,500°C in hydrogen with dew point between between 0 and - 55°C. Aluminum chips with purity 99.9999% were used. It was found that the growth of α-Al_2O_3 whiskers in the process of oxidation of aluminum in moist hydrogen, when grown in mullite ceramic, occurs by the mechanism vapor-liquid-solid phase by crystallization of aluminum oxide from liquid drops of alloys of aluminum with silicon and iron.

1/1

USSR

UDC 548.52

GRIBKOV, V. N., SILAYEV, V. A., SHCHEPANOV, B. V., UVANTSEV, E. I., and ISAYKIN, A. S.

"Peculiarities of the Growth Mechanism of Silicon Nitride Whiskers"

Moscow, Kristallografiya, Vol 16, No 5, Sep-Oct 71, pp 983-985

Abstract: The authors studied the growth conditions and mechanism of α-Si_3N_4 whiskers grown by the reaction of silicon dioxide with silicon at 1350-1480° C in an atmosphere of nitrogen containing about 1 percent hydrogen, with special emphasis on the role of mullite. It was found that mullite is the best substrate for α-Si_3N_4. In the absence of mullite, whisker growth occurs only if iron or aluminum impurities are present in the initial charge or are introduced into the growth zone. Under these conditions deposition proceeds by a vapor-liquid-solid phase mechanism with the participation of drops consisting of aluminum-silicon, iron-silicon, or iron-aluminum-silicon alloys, while crystallization from the liquid phase proceeds by an axial screw dislocation mechanism.

1/1

UDC 546.171.1'621

USSR

PORTNOY, K. I., GRIBKOV, V. N., ISAYKIN, A. S., SHCHETANOV, B. V., and LEVINSKAYA, M. KH.

"The Role of Liquid Drops in the Growth of Aluminum Nitride Whiskers"

Moscow, Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 10, Oct 70, pp 1762-1767

Abstract: No theoretical or experimental proof has yet been obtained as to the possibility of the growth of refractory-compound whiskers by the "vapor-liquid-solid phase" mechanism, and there are contradictory views concerning the role of liquid drops in their growth. Therefore, the authors undertook to elucidate the need for the presence of liquid drops for the growth of refractory-compound whiskers, as well as to study the mechanism of their participation in such growth. Aluminum nitride whiskers were used for the study. The whiskers were grown by two methods, viz. (1) reduction of aluminum oxide in the presence of nitrogen and (2) nitriding of aluminum. Experiments showed that the growth of the AlN whiskers according to both reactions is always

USSR

PORTNOY, K. I., et al., Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 10, Oct 70, pp 1762-1767

accompanied by the formation of "drops." Electron diffraction and X-ray studies showed that the composition of the "drops" was identical to that of the whiskers, i. e.,they were spheres of aluminum nitride. Condensation of liquid aluminum drops is a necessary condition for the growth of AlN whiskers. It is unlikely that whiskers of AlN and other similar compounds grow by the "vapor-liquid-solid phase" mechanism. It is more probable that the aluminum drops are crystallization centers.

2/2

USSR UDC 669.3/.5/008

ISENTAYEV, K. B.

"Problems of Combined Study and Utilization of Mineral Raw Material and Production Wastes in the Republic"

Nauch. tr. Kazakhsk. Politekhn. In-t [Scientific Works of Kazakh Polytechnical Institute], Alma-Ata, 1971, pp 574-577, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G301 by S. Krivonosova).

Translation: Research and prospecting organizations must be created for combined study of useful minerals. A number of examples are presented in which various specialized organizations have studied at the same deposit, resulting in unjustified expenditures. The necessity of combined study of Gur'yevskaya oblast is emphasized. It is important to increase the quality, reliability, and effectiveness of geological prospecting operations. The capabilities of combined processing of raw material and wastes at enterprises are not fully used: processing of slags, waste gases, and trapping of dust are poorly organized. (In the KazSSR, the following are processed (in%): slags 19, dusts 45, S from waste gases 70%). It is expedient to process accumulated zinc slag (containing Pb, Zn, Cu, and other metals). It has been calculated that the capital expenditures for the construction of slag processing installations will be amortized

1/2

USSR

ISENTAYEV, K. B., Nauch. tr. Kazakhsk. Politekhn. In-t, Alma-Ata, 1971, pp 574-577

in 1.5-2 years, and no expenditures are required for mining and enrichment of the ore. One ton of Zn produced from slag is 80 to 90 rubles cheaper than 1 ton Zn extracted from ore by ordinary methods.

- END -

CSO: 1842-W

2/2

ISEYEV, L. R.

USE OF AN M-220 ELECTRONIC COMPUTER FOR AUTOMATIC PROCESSING OF EXTERNAL RESPIRATION PARAMETERS

[Article by L. A. Rustam'yan, N. I. Vikhrov, V. D. Zhosyreva and L. R. Iseyev, Moscow, Aktual'nyye Voprosy Kosmicheskoy Biologii i Meditsiny (Current Problems in Space Biology and Medicine), Russian, 1971, pp 230-232]

In investigating the functions of human external respiration in laboratory experiments in many cases there must be a routine evaluation of the state and adoption of an emergency decision. Automation of decoding and computation of the complex of external respiration parameters using an electronic computer made it possible to solve this problem.

The proposed system for the automatic processing of the parameters of respiration will make it possible to determine the following parameters: inhalation volume V_I [ml] and exhalation volume V_E [ml]; duration of inhalation t_I [sec], exhalation t_E [sec] and respiratory cycle t_{cy} [sec]; respiration rate f[resp/min], O_2 consumption (STPD) $\dot{V}_{O_2}$ [ml/min] and CO_2 release (STPD) $\dot{V}_{CO_2}$[ml/min]; respiration coefficient $R = \dot{V}_{CO_2}/\dot{V}_{O_2}$.

These parameters are computed for each respiratory cycle (inhalation-exhalation). On the basis of individual respiratory cycles it was possible to compute the mean values of these parameters in one minute.

The automatic processing system consists of a spirometer with a potentiometric output for registering the respiratory volume $V_T(t)$, SM-100 mass spectrometer for measuring the O_2 fraction $F_{O_2}(t)$ and CO_2 fraction $F_{CO_2}(t)$ during inhalation (I) and exhalation (E), a three-channel [illegible] magnetic recorder used in registering the parameters V_T, F_{O_2} and F_{CO_2} in the form of a continuous dependence of voltage on time, and an M-220 electronic computer. The input of data from the magnetic recorder into the electronic computer was accomplished

JPRS 56499
14 JULY 72

1/3 009 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PRODUCT OF THE CONDENSATION OF LUPININIC ACID WITH PIPERIDINE -U-

AUTHOR-(04)-ASLANOV, KH.A., KASYMOV, T.K., SADYKOV, A.S., ISHBAYEV, A.I.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (4), 492-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORGANIC ACID, ALKALOID, HETEROCYCLIC NITROGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0947 STEP NO--UR/0409/70/000/004/0492/0494

CIRC ACCESSION NO--AP0134668

UNCLASSIFIED

2/3 009 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0134668

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO A SOLN. OF 11 G LUPINIC ACID IN 120 ML PIPERIDINE WAS ADDED PORTIONWISE 46 G P SUB2 O SUB5 AND THE MIXT. REFLUXED 3 HR TO YIELD 75.5PERCENT D I (X EQUALS O, R EQUALS PIPERIDINO) (D II), B SUB5 228-30DEGREES, (ALPHA) SUBD 54.2DEGREES (ETOH); PERCHLORATE M. 199-200DEGREES (H SUB2 O); HCL SALT M. 114-15DEGREES (ME SUB2 CO). II WAS HYDROLYZED BY 16 HR REFLUX IN 20PERCENT H SUB2 SO SUB4. II (3 G) IN 50 ML ET SUB2 O WAS ADDED TO A WARM SOLN. OF 1 G LIALH SUB4 IN 150 ML ET SUB2 O AND THE MIXT. HEATED 3 HR TO YIELD D I (X EQUALS H SUB2, R EQUALS PIPERIDINO) (D III), B SUB10 158-60DEGREES, (ALPHA) SUBD 196.5DEGREES (ETOH); PICRATE M. 205-6DEGREES (ETOH). III WAS ALSO OBTAINED BY HEATING 3.9 G BROMOEPILUPINANE (D IV) AND 20 ML PIPERIDINE IN A SEALED TUBE AT 15-60DEGREES FOR 6 HR. A SOLN. OF 10 G D I (X EQUALS O, R EQUALS OH) IN 200 ML WAS SATD. WITH HCL FOR 8 HR, THEN KEPT 24 HR AND REFLUXED 4 HR TO YIELD 55PERCENT D I (X EQUALS O, R EQUALS OET) (D V), B SUB4 139-40DEGREES, (ALPHA) SUBD 48DEGREES (ETOH). A SOLN. OR 4.7 G V IN 70 ML ET SUB2 O WAS ADDED TO A WARM SOLN. OF 2 G LIALH SUB4 IN 300 ML ET SUB2 O AND THE MIXT. REFLUXED 4 HR TO YIELD 98.4PERCENT D I (X EQUALS H SUB2, R EQUALS OH (D VI), M. 79-80DEGREES, (ALPHA) SUBD 36.8DEGREES (ETOH). TO A SOLN. OF 3.5 G D VI IN 60 ML C SUB6 H SUB6 WAS ADDED PORTIONWISE 15 G PBR SUB5 AND THE MIXT. REFLUXED 2 HR TO YIELD 98.5PERCENT D IV, B SUB2 126-30DEGREES (ALPHA) SUBD 61DEGREES (ETOH). LUPININE (11 G) WAS BROMINATED UNDER SIMILAR CONDITIONS TO YIELD 99PERCENT L IV, B SUB2 126-30DEGREES, (ALPHA) SUBD MINUS 27.2DEGREES (ETOH); PICRATE M. 134-5DEGREES (H SUB2 O).

UNCLASSIFIED